

**DUAL INPUT AC and DC POWER SUPPLY HAVING A  
PROGRAMMABLE DC OUTPUT UTILIZING A SECONDARY BUCK  
CONVERTER**

**5 CROSS REFERENCE TO RELATED APPLICATIONS**

The present application is related to and claims priority from commonly assigned U.S. Patent application Serial No. 10/005,961 filed December 3, 2001, <sup>and</sup> the teachings of which are incorporated herein by reference.

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**10 TECHNICAL FIELD**

The present invention generally relates to the field of power converters, and more particularly to a dual input AC and DC to programmable DC output power converter.

**BACKGROUND OF THE INVENTION**

**15** As the use of mobile electronic products, such as PC notebooks, PDAs , cellular telephones and the like, continues to increase, the need for low cost, compact power supplies to power and recharge these products also continues to increase. Most manufacturers of mobile products typically include plug-in power adapters along with these mobile products to help facilitate the power supply  
**20** needs of their customers.

Today's power adapters are typically AC-to-DC, or DC-to-DC power converters which are configured to either step-up or step-down the DC voltage input delivered to the mobile device. With AC-to-DC adapters, for example, users can power most mobile devices by simply plugging the adapter into a simple AC  
**25** wall outlet commonly found in most homes or offices. Similarly, when only DC